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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,896	06/06/2001	Arogyaswami J. Paulraj	GW-101/CON	8146
8791	7590	06/10/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			LIU, SHUWANG	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/876,896	Applicant(s) PAULRAJ ET AL.	
	Examiner Shuwang Liu	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-14 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 9-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The double patenting rejection is withdrawn. Applicant's arguments filed 12/30/04 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meets the claimed limitation as rejected.

(1) regarding rejection under 35 USC 102 (b) by the patent to Omura 5,235,615):

Applicant's argument –“neither of these two citations, alone or in combination teach or suggest determining a time delay between two signals, emanating from two different transmitters on a common frequency and received at a common point in the coverage area.”

Examiner's response – The Examiner respectfully disagrees with the applicant argument. As disclosed in lines 25- 54 of column 2, lines 6-15 of column 6 and abstract, “Upon received the protocol signal at the accessing-remote unit, the accessing-remote unit adjusts a delay time such that the communication signal transmitted from the accessing-remote unit arrives simultaneously at the base station with communications signals transmitted from the plurality of remote units.” As shown in figure 1, accessing-remote units 114 and 113 are corresponding to the first transmitter and the second transmitter, respectively. The first transmitter and the second transmitter also transmit a first signal (S1) and a second signal S2, respectively. The signals S1 and S2 arrive simultaneously at base station (receiver) 110. One skilled in the art would understand that the signals (S1 and S2) from the first transmitter (114)

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and second transmitter (113), respectively, arrive at the base station (110) with time delay & because the two signals are transmitted from different locations (distances). The delay time between two signals (S1 and S2) is a relative parameter. If the time delay is adjusted for one of the two signals, the adjusting is introducing the transmission delay & between the transmission of the first signal S1 and the transmission of the second signal S2 such that the first signal S1 and the second signal S2 are received simultaneously (coherently) at the predetermined point (base station 110), thereby aiding in interference mitigation (column 1, lines 15-49). The applicant can also read other paragraphs, for example, column 6, lines 28-42 and column 9, line 65-column 10, line 7, for better understanding the reference for the rejection.

(2) regarding rejection under 35 USC 102 (b) by the patent to Teder et al. (5,828,659):

Applicant's argument – "the citation in the Teder reference appears to teach the transmission of a common signal"

Examiner's response – the limitations can be found from column 6, line 52-column 10, line 63.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Omura (Patent Number 5,235,615).

(1) regarding claims 1-2, 5 and 7:

Omura discloses in column 2, lines 10-63 and column 5, line 4 to column 6, line 15, a method and communication system having at least a first transmitter (for example, 114 in figure 1), a second transmitter (113), and a receiver (110) located within a coverage area, comprising:

determining a time delay between reception at a predetermined point (110) in the coverage area of a first signal transmitted from 114 to 110 and a second signal transmitted from 113 to 110 at a same frequency as recited in claim (lines 25- 54 of column 2, lines 6-15 of column 6 and abstract); and

introducing a transmission delay (see abstract) between the transmission of the first signal and the transmission the second signal such that the first signal and the second signal are received coherently (simultaneously) at the predetermined point 110, whereby the first signal and the second signal are received substantially coherently (simultaneously) by the receiver, thereby aiding in interference mitigation (column 1, lines 15-49, lines 25- 54 of column 2, lines 6-15 of column 6 and abstract).

(2) regarding claims 3, 4 and 8:

wherein, the predetermined by ranging (distance) (column 6, lines 1-6) and a sector of a cell is inherent located in the coverage area.

(3) regarding claim 6:

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further the system is CDMA or FDMA which selected from a group consisting of TDMA, CDMA, FDMA and OFDMA (column 3, line 60-column 4, line 12).

4. Claims 1, 2 and 4-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Teder et al. (Patent Number 5,828,659).

(1) regarding claims 1-2, 5 and 7:

AS shown in figures 2-5, Teder et al. discloses a method and communication system having at least a first transmitter (BS1), a second transmitter (BS2), and a receiver (MS) located within a coverage area, comprising:

determining a time delay between reception at a predetermined point (MS) in the coverage area of a first signal transmitted from BS1 to MS and a second signal transmitted from BS2 to MS at a same frequency as recited in claim (column 4, lines 28-43); and

introducing a transmission delay between the transmission of the first signal and the transmission the second signal such that the first signal and the second signal are received coherently at the predetermined point, whereby the first signal and the second signal are received substantially coherently by the receiver, thereby aiding in interference mitigation (column 1, lines 55-61, column 13, lines 46-67, column 7, lines 20-45, column 8, lines 9-16 and claim 1).

(2) regarding claims 4 and 8:

wherein, the predetermined by ranging (distance) (column 6, lines 1-6) and a sector of a cell is inherent located in the coverage area.

(3) regarding claim 6:

further the system is CDMA or FDMA which selected from a group consisting of TDMA, CDMA, FDMA and OFDMA (column 1, lines 8-67).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is 571 272-3036. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shuwang Liu
Primary Examiner
Art Unit 2634

June 6, 2005